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$$-\mathsf{E} - \bigcirc \mathsf{A} - \bigcirc \mathsf{CO_2Na} - \mathsf{E} - \bigcirc \mathsf{B} - \mathsf{C} - \bigcirc \mathsf{OMe} - \mathsf{E} - \bigcirc \mathsf{OMe} - \mathsf{CO_2Na} - \mathsf{CO_$$

ELECTRON-RICH ARYLCHALCOGENO GROUPS WITH DIFFERENT SOLUBILITY CHARACTERISTICS.

FIG. 1A

$$(HO-\bigcirc)_3^3CCH_3 \qquad (HO-\bigcirc)_3^3C(CH_2)_8CH=CH_2 \qquad (HO-\bigcirc)_3^3C(CH_2)_9CH_2OH \qquad (HO-\bigcirc)_3^3CR$$

$$E \qquad \qquad F \qquad \qquad G \qquad \qquad H$$

CORE GROUPS WITH DIFFERENT ATTACHMENT CHARACTERISTICS.

FIG. 1B

CH₃C
$$+$$
CH₃C $+$ CH

FIG. 2

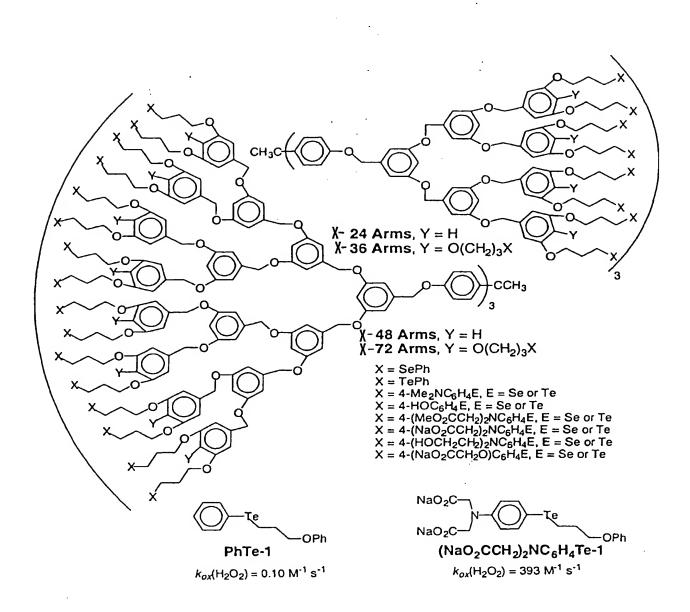


FIG. 3

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ArE-12,
$$X = Y = H$$

ArE-18, $X = H$, $Y = O(CH_2)_3EAr$

ArE-12, $X = Y = H$

ArE-18, $X = H$, $Y = O(CH_2)_3EAr$

ArE-12, $X = Y = H$

ArE-18, $X = H$, $Y = O(CH_2)_3EAr$

ArE-18, $X = H$, $Y = O(CH_2)_3EAr$

ArE-17, $Y = O(CH_2)_3EAr$

ArE-18, $X = H$, $Y = O(CH_2)_3EAr$

ArE-18, $X = H$, $Y = O(CH_2)_3EAr$

ArE-19, $Y = O(CH_2)_3EAr$

ArE-10, $Y = CH_3C$

ArE-10, $Y = H$

ArE-11, $Y = CH_3C$

ArE-12, $Y = CH_3C$

ArE-12, $Y = CH_3C$

ArE-13, $Y = CH_3C$

ArE-14, $Y = CH_3C$

ArE-15, $Y = H$

ArE-16, $Y = H$

ArE-19, $Y = O(CH_2)_3EAr$

ArE-10, $Y = CH_3C$

ArE-10, $Y = CH_3C$

ArE-11, $Y = CH_3C$

ArE-12, $Y = CH_3C$

ArE-12, $Y = CH_3C$

ArE-13, $Y = CH_3C$

ArE-14, $Y = CH_3C$

ArE-15, $Y = CH_3C$

ArE-16, $Y = H$

ArE-19, $Y = O(CH_2)_3EAr$

ArE-10, $Y = CH_3C$

ArE-11, $Y = CH_3C$

ArE-12, $Y = CH_3C$

ArE-12, $Y = CH_3C$

ArE-13, $Y = CH_3C$

ArE-14, $Y = CH_3C$

ArE-15, $Y = CH_3C$

ArE-16, $Y = H$

ArE-19, $Y = CH_3C$

ArE-10, $Y = CH_3C$

ArE-11, $Y = CH_3C$

ArE-12, $Y = CH_3C$

ArE-12, $Y = CH_3C$

ArE-13, $Y = CH_3C$

ArE-14, $Y = CH_3C$

ArE-15, $Y = CH_3C$

ArE-16, $Y = H$

ArE-19, $Y = CH_3C$

ArE-10, $Y = CH_3C$

ArE-12, $Y = CH_3C$

ArE-12, $Y = CH_3C$

ArE-13, $Y = CH_3C$

ArE-14, $Y = CH_3C$

ArE-15, $Y = CH_3C$

ArE-16, $Y = H$

ArE-19, $Y = CH_3C$

ArE-12, $Y = CH_3C$

ArE-12, $Y = CH_3C$

ArE-13, $Y = CH_3C$

ArE-14, $Y = CH_3C$

ArE-15, $Y = CH_3C$

ArE-15, $Y = CH_3C$

ArE-16, $Y = H$

ArE-19, $Y = CH_3C$

ArE-12, $Y = CH_3C$

ArE-12, $Y = CH_3C$

ArE-13, $Y = CH_3C$

ArE-14, $Y = CH_3C$

ArE-15, $Y = CH_3C$

ArE-15, $Y = CH_3C$

ArE-16, $Y = CH_3C$

ArE-17, $Y = CH_3C$

ArE-18, $Y = CH_3C$

ArE-18, $Y = CH_3C$

ArE-19, $Y = CH_3C$

ArE-10, $Y = CH_3C$

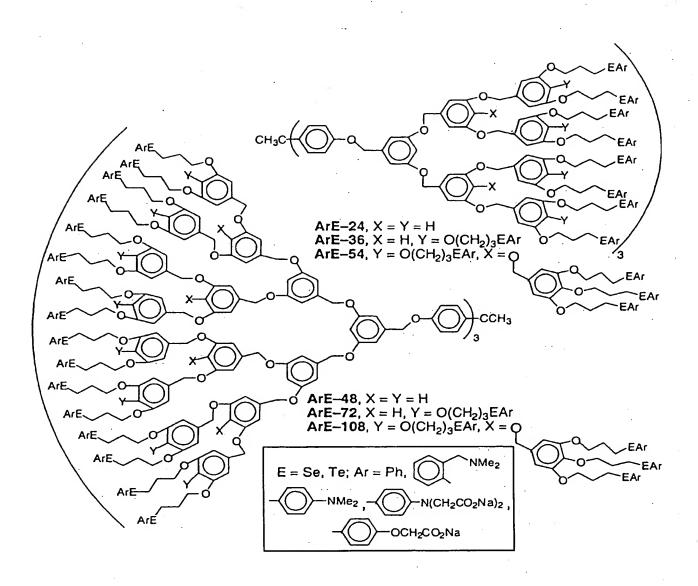


FIG. 5

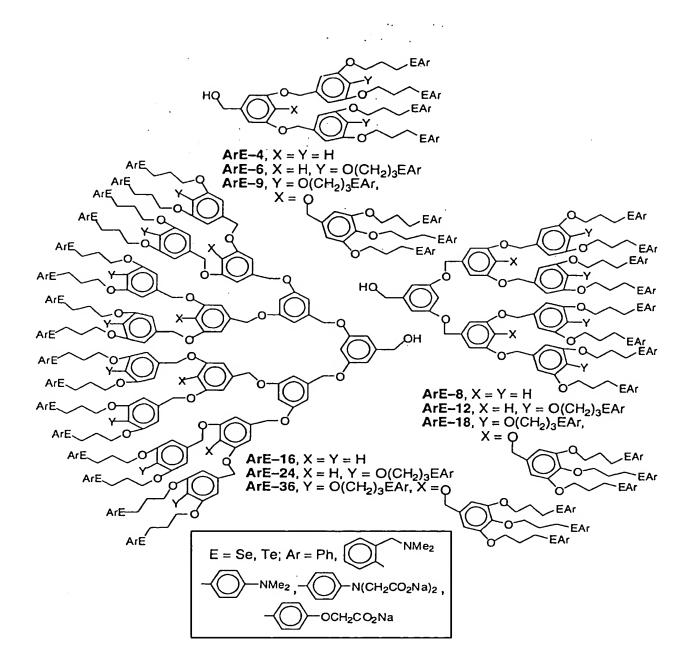


FIG. 6

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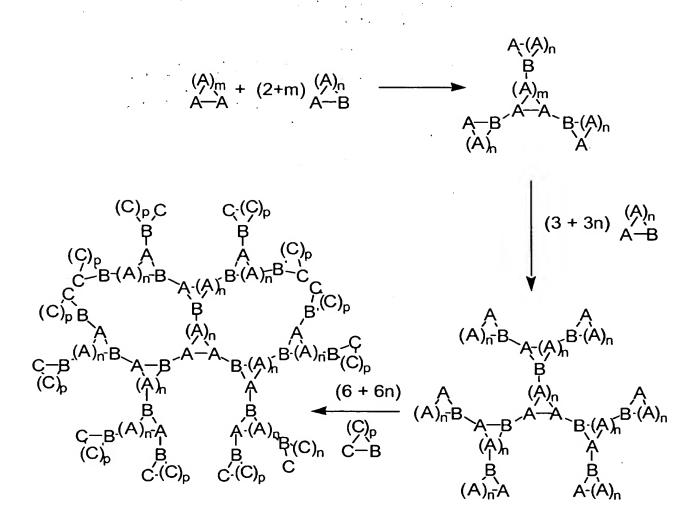


FIG. 8

$$R_{2}E + HOOH$$

$$R = Se, Te$$

$$X = CI, Br, I, SR', SeR'$$

$$R = Se = Se, Te$$

$$X = CI + R = Se$$

$$R = Se = Se$$

$$R = Se = Se$$

$$R = Se = Se$$

$$R_{2}E + R_{2}E$$

$$R_{3}E = Se$$

$$R_{4}E = Se$$

$$R_{2}E + R_{2}E$$

$$R_{4}E = Se$$

$$R_{5}E = Se$$

$$R_{6}E = Se$$

$$R_{7}E = Se$$

$$R_{7}E = Se$$

$$R_{8}E = Se$$

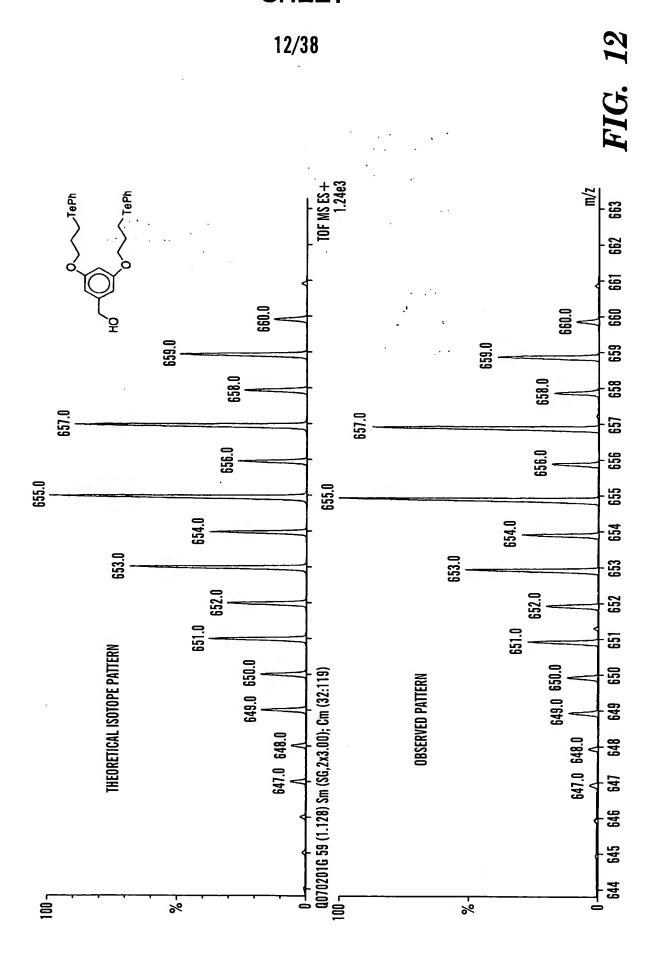
$$R_{1}E = Se$$

$$R_{2}E + R_{2}E$$

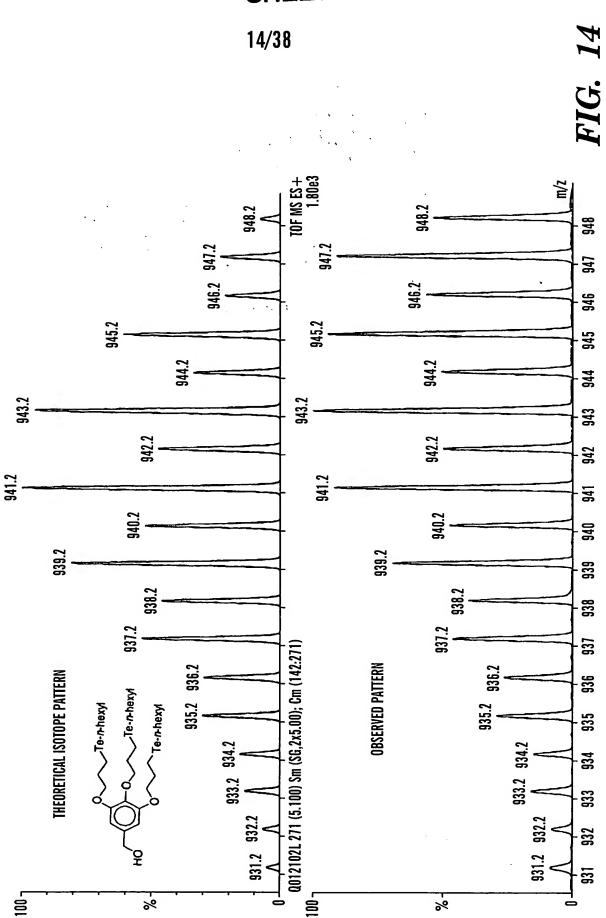
FIG. 9

FIG. 10

FIG. 11

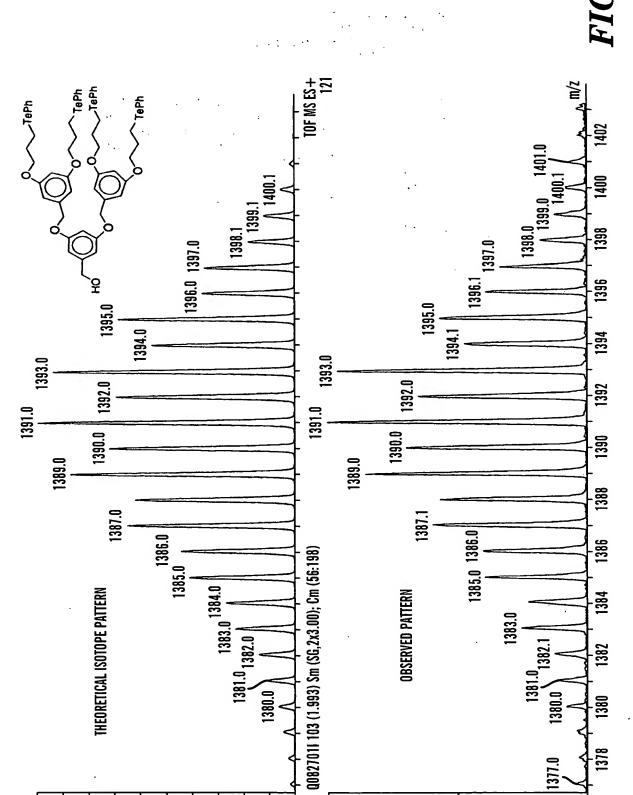


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%

1001

%

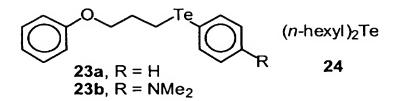
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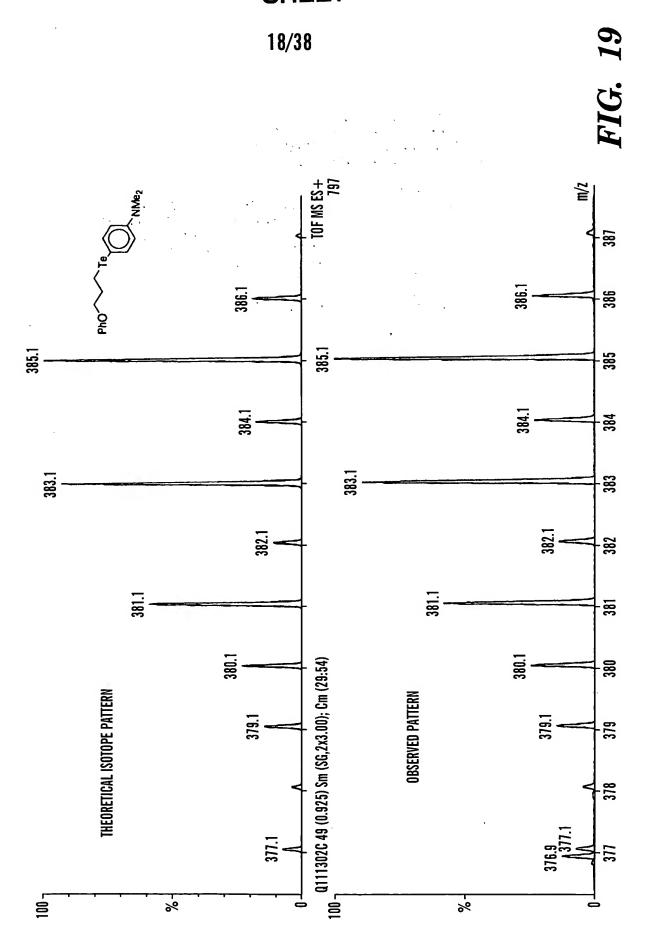
Br. 21 RTeTeR, NaBH₄
RTe

22a, R = Ph

22b, R = 4-Me₂NC₆H₄
22c, R = n-C₆H₁₃

FIG. 17





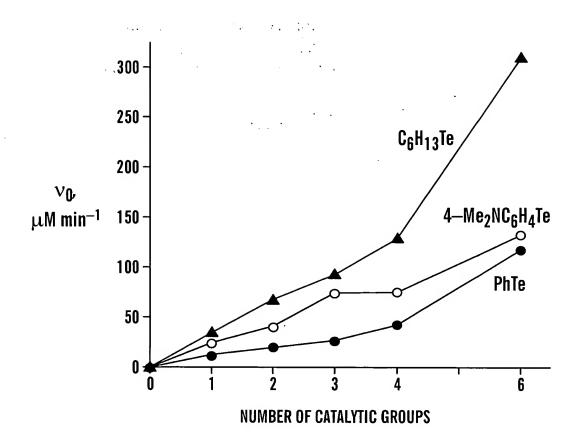


FIG. 20

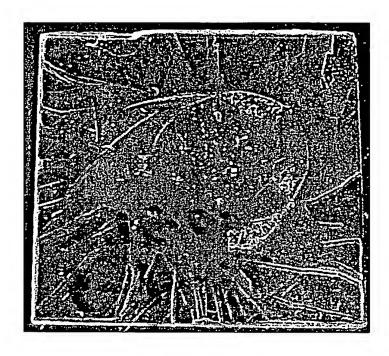


FIG. 21A

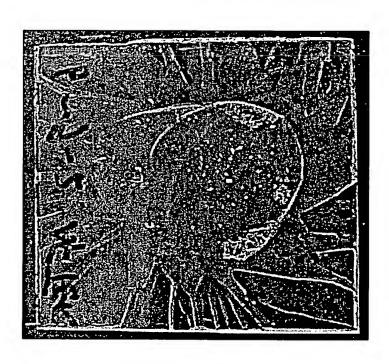


FIG. 21B

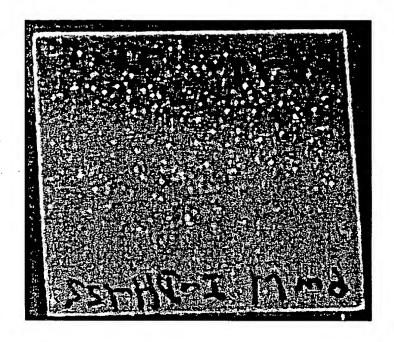


FIG. 21C

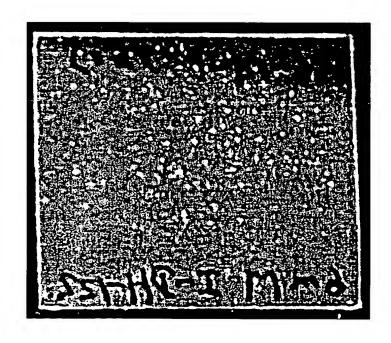


FIG. 21D

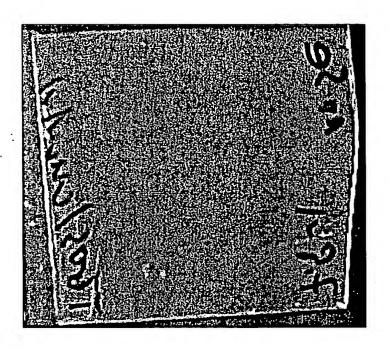


FIG. 21E

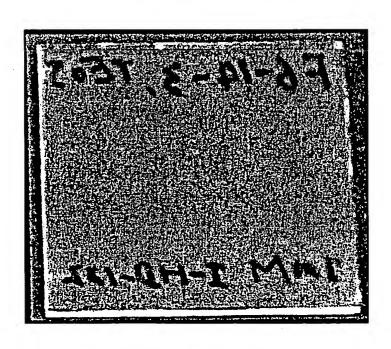


FIG. 21F

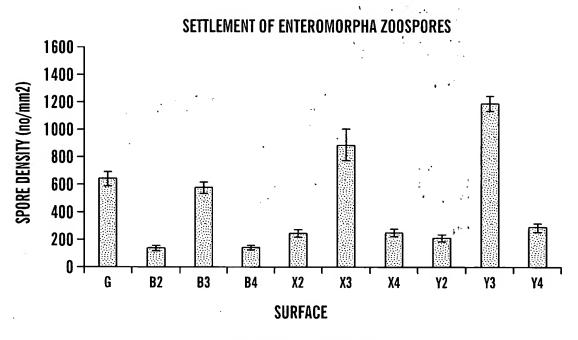


FIG. 22A

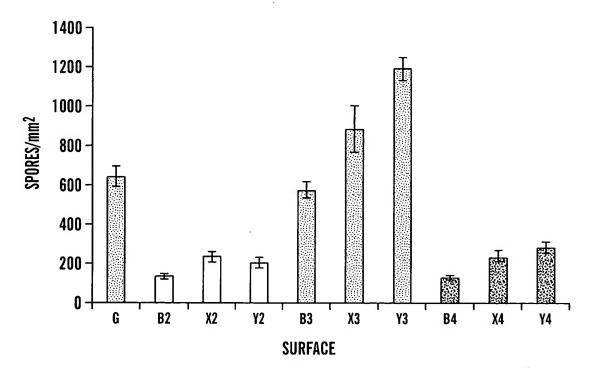


FIG. 22B

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DISTRIBUTION OF ENTEROMORPHA ZOOSPORES AFTER EXPOSURE TO A SURFACE PRESSURE OF 56 KPa

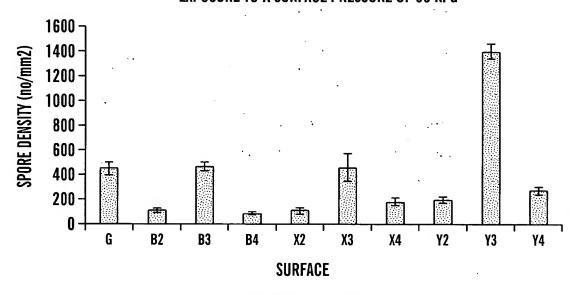


FIG. 23

PERCENTAGE REMOVAL OF ENTEROMORPHA ZOOSPORES AFTER EXPOSURE TO A SURFACE PRESSURE OF 56 KPa

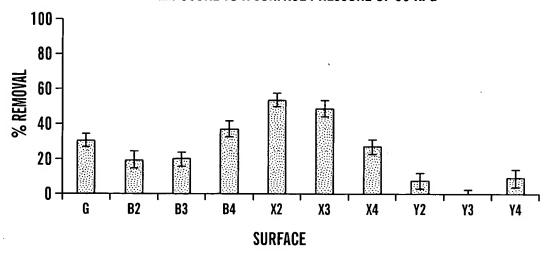


FIG. 24A

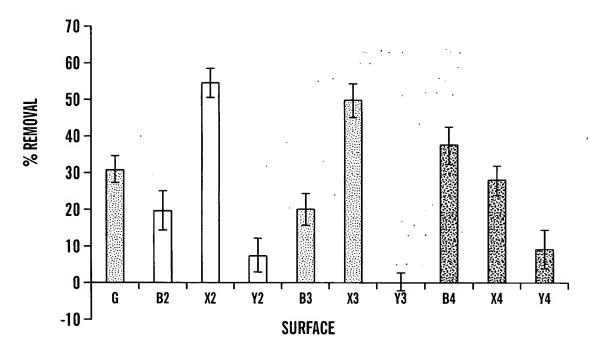


FIG. 24B



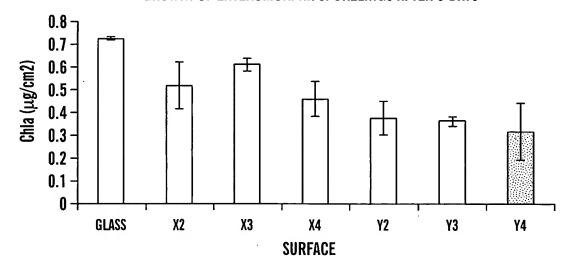


FIG. 25

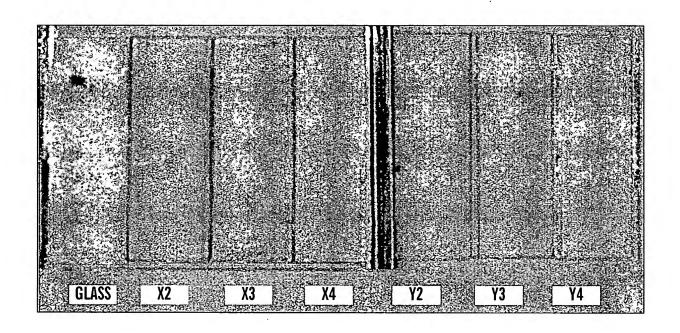


FIG. 26

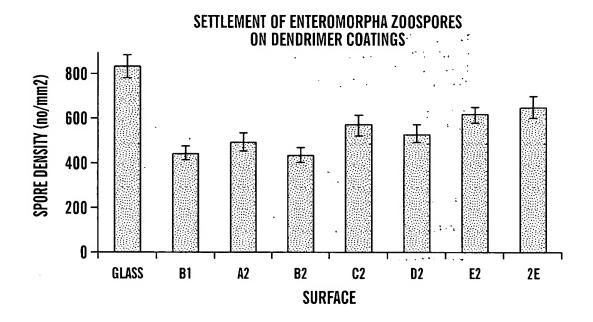


FIG. 27

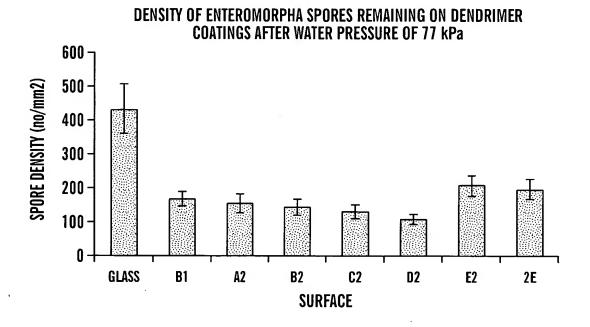


FIG. 28

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% REMOVAL OF ENTEROMORPHA SPORES FROM DENDRIMER COATINGS AFTER SURFACE PRESSURE OF 77 kPa

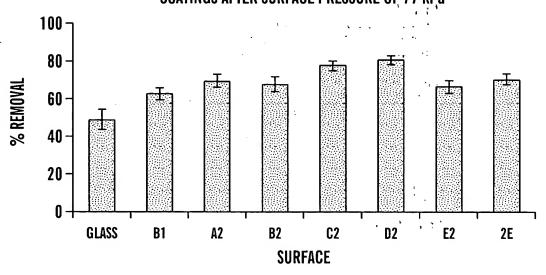


FIG. 29

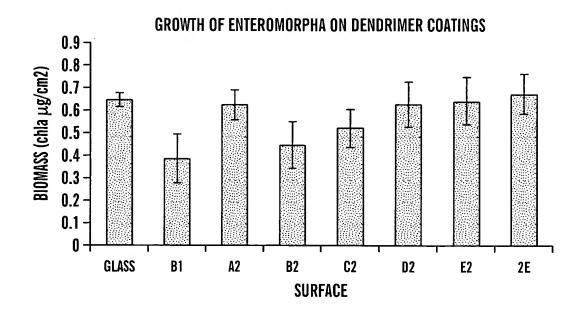


FIG. 30

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ENTEROMORPHA BIOMASS REMAINING ON DENDRIMER COATINGS AFTER SHEAR STRESS OF 55 Pa

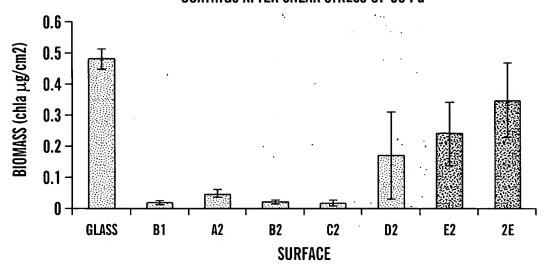


FIG. 31

% REMOVAL OF ENTEROMORPHA SPORELING BIOMASS AFTER SHEAR STRESS OF 55 Pa

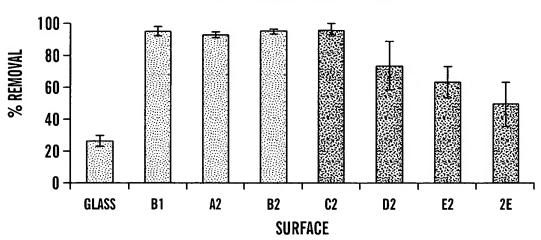


FIG. 32



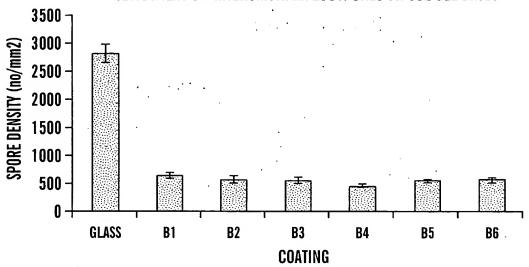


FIG. 33

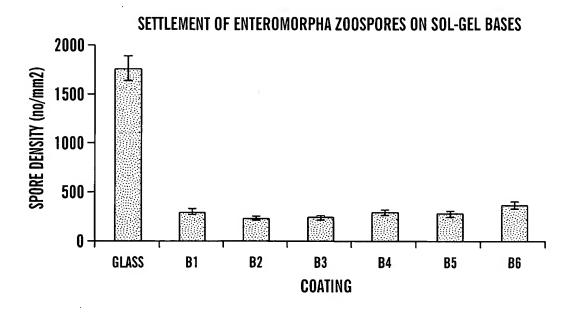


FIG. 34

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DENSITY OF ENTEROMORPHA SPORES REMAINING AFTER PRESSURE OF 83 kPa UNDER WATER JET

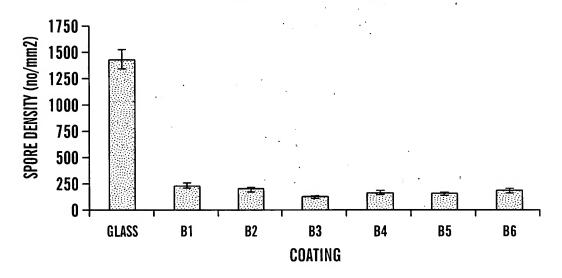


FIG. 35

PERCENT REMOVAL OF ENTEROMORPHA SPORES FROM SOL-GELS AFTER PRESSURE OF 83 kPa UNDER WATER JET

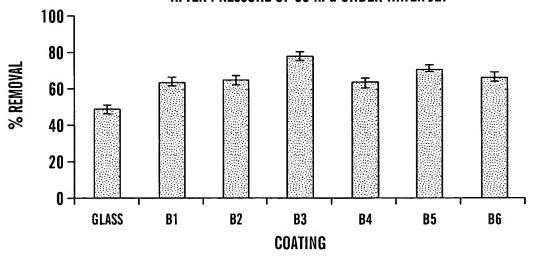


FIG. 36

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DENSITY OF ENTEROMORPHA SPORES REMAINING AFTER SHEAR STRESS OF 55 Pa

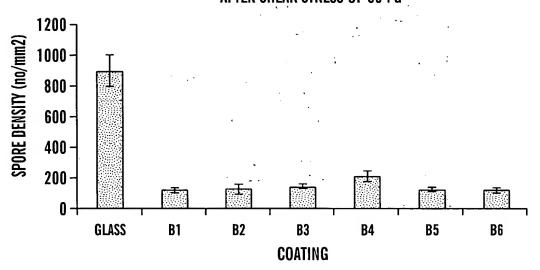


FIG. 37

PERCENT REMOVAL OF ENTEROMORPHA SPORES FROM SOL-GELS AFTER SHEAR STRESS OF 55 Pa

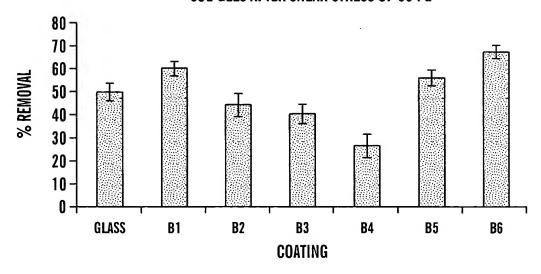
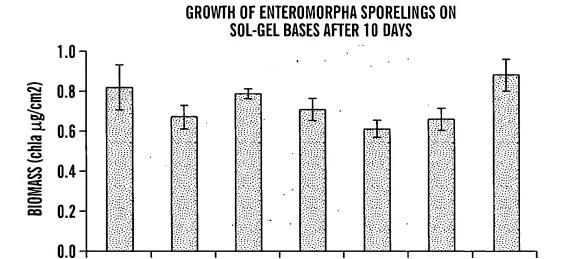


FIG. 38

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B2

GLASS

B1

FIG. 39

B3

COATING

B4

B5

B6

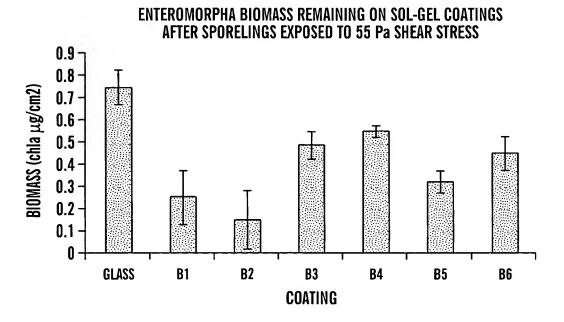


FIG. 40

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FIG. 41

COATING

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SETTLEMENT OF ULVA ZOOSPORES ON SOLGELS CONTAINING CATALYSTS

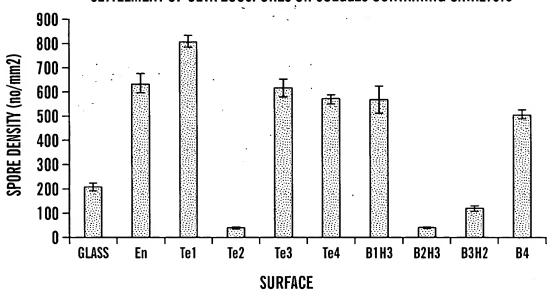


FIG. 42

DENSITY OF *ULVA* SPORES REMAINING AFTER EXPOSURE TO A WATER JET SURFACE PRESSURE OF 64 kPa

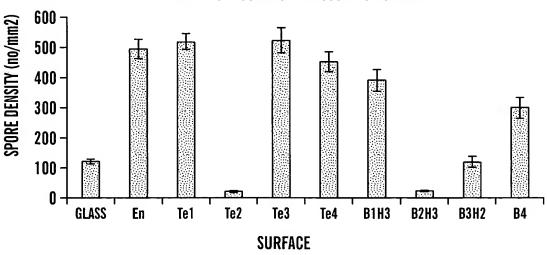


FIG. 43

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REMOVAL OF ULVA SPORES FROM SOLGELS CONTAINING CATALYSTS

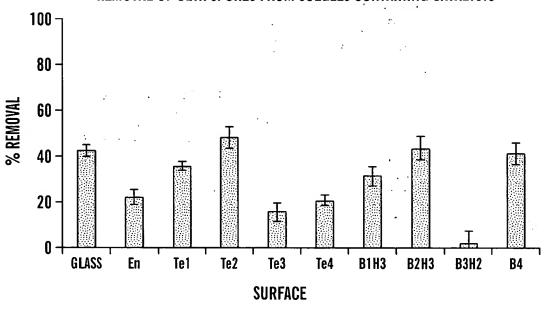


FIG. 44

GROWTH OF ULVA SPORELINGS ON SOLGELS CONTAINING CATALYSTS

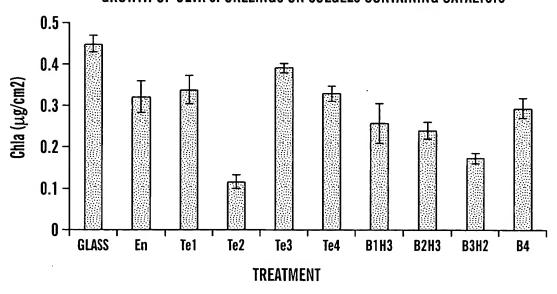


FIG. 45

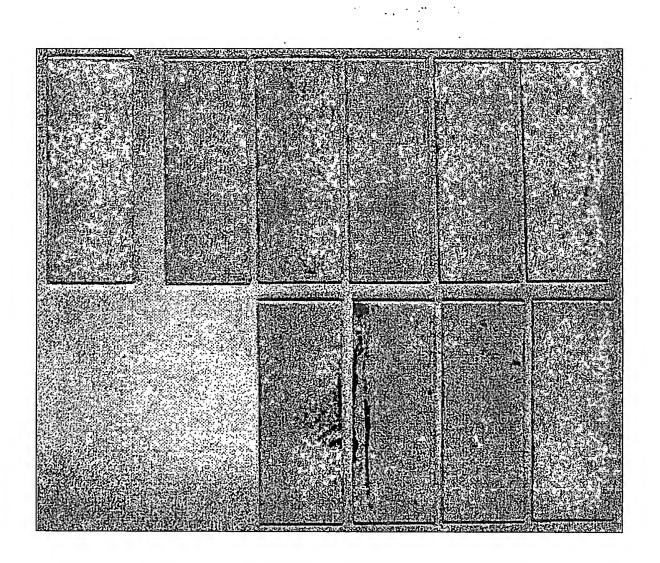


FIG. 46

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BIOMASS REMAINING ON SOLGELS CONTAINING CATALYSTS AFTER EXPOSURE TO SHEAR STRESS OF 55 Pa

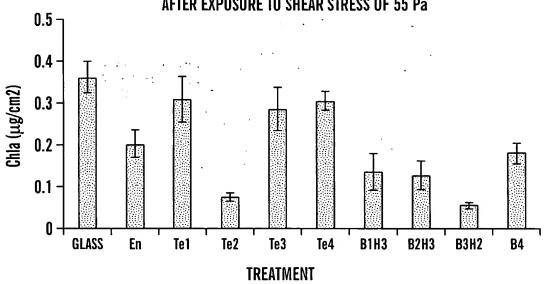


FIG. 47

PERCENTAGE REMOVAL OF ULVA SPORELINGS FROM SOLGELS CONTAINING CATALYSTS AFTER EXPOSURE TO SHEAR STRESS OF 53 Pa

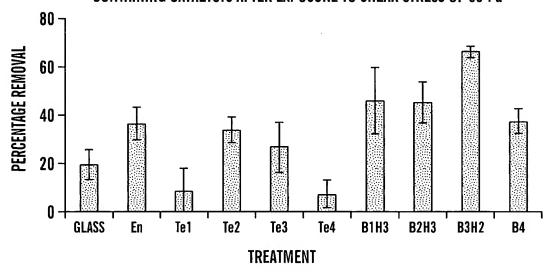


FIG. 48

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